REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-27 are pending in this application. Claims 1-10, 17, 19-23, 26, and 27 stand withdrawn from consideration. The drawings were objected to under 37 C.F.R. § 1.83(a). The Amendment filed on January 11, 2006, was objected to under 35 U.S.C. § 132(a) as introducing new matter. Claims 11, 12-16, 18, and 24-25 were rejected under 35 U.S.C. § 112, first paragraph. Claims 11, 12-16, 18, and 24-25 were objected to for informalities. Claims 11-12 and 14, 16, and 18 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. patent 6,101,008 to Popovich. Claims 11, 12-16, and 18 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 6,229,561 to Son et al. (herein "Son"). Claims 11-16 and 18 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. patent 5,966,167 to Nose et al. (herein "Nose"). Claims 24-25 were rejected under 35 U.S.C. § 103(a) as unpatentable over Son as applied to claim 12, and further in view of U.S. patent 6,611,243 to Moseley et al. (herein "Moseley"). Claims 24-25 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nose as applied to claim 12, and further in view of Moseley. Claims 13 and 15 were rejected under 35 U.S.C. § 103(a) as unpatentable over Popovich. Claims 24-25 were rejected under 35 U.S.C. § 103(a) as unpatentable over Popovich in view of Moseley.

Addressing first the objection to the drawings, that objection is traversed by the present response.

The drawings were objected to as the "image generator" recited in claim 12 was not shown in the drawings. That objection is traversed. Attention is directed for example to Figures 17 and 19 in the present specification showing cameras C1-C4. Those cameras generate multiple input images, each of which corresponds to one of multiple view points, see also the discussion in the present specification at page 65, line 2 et seq. Thus, those cameras C1-C4 clearly support the claimed "image generator".

Addressing now the objection to the Amendment filed on January 11, 2006 as introducing new matter, and the related rejection of claims 11, 12-16, 18, and 24-25 under 35 U.S.C. § 112, first paragraph, that objection and rejection are traversed by the present response.

The previous amendment was objected to and the claims were rejected as the phrase "allocating two or more of the input images to each of image display reasons of an image display device" as recited in claim 11, and as similarly recited in amended claim 12, were not supported by the specification.

In response to that position applicants believe that claim language is fully supported by the original specification. Specifically, attention is directed to Figure 18, as a non-limiting example, in the present specification that clearly supports the claimed features.

As shown in Figure 18 in the present specification, and drawing attention to the corresponding disclosure in the specification at page 66, line 5 et seq., a sub-region (a display region) of the display device is each of the rectangular regions of screen S of Figure 18. Two or more input images (L1 and L2 for example) are allocated to one sub-region, each of the allocated images corresponding to be one of deflected toward different view points. Similarly two images (L3 and L4) and allocated to a different sub-region (an adjacent display region).

That is, the images (for example L1 and L2) allocated to each of the sub-regions are switched at a certain timing. When the number of images assigned to a sub-region is 2 as illustrated in Figure 18, these images are displayed alternately at short time intervals, and guided to two different view points (for example to a right-eye position and a left-eye position) to create a stereoscopic sense in the observer. In the example shown in Figure 18 image L1 for the right-eye and image L2 for the left-eye of an observer are displayed alternately at short time intervals. Because this switching timing is very short, the observer

will feel or have an illusion as if the two different images come into the left-eye and the right-eye simultaneously and separately.

Applicants also respectfully submit it is well-known in the art that a left-eye and a right-eye image can cause a stereoscopic sense based on binocular parallax, as discussed in the "Description of the Related Art" section of the specification at page 2, line 12 et seq.

Further, in the operation in Figure 18, a different set of input images is then assigned to a different sub-region (for example an adjacent sub-region) covered by the same unit area (see for example the lenticular element LL). For example, when images L1 and L2 are allocated to a first sub-region, a different image pair L3 and L4 are allocated to the adjacent sub-region belonging to the same unit area. The image data items L3 and L4 are also switched, similarly as discussed above with respect to images L1 and L2, and the light beams from this adjacent sub-region are guided to further different view points in sync with the switching timing.

Further, the images L1 and L2 can be switched by an ordinary switching circuit for supplying the images L1 and L2 alternately to the associated sub-region. The beam from the sub-region can be deflected to different view points using, for example, the structure shown in Figure 18 of a light deflector LC placed in front of a lenticular lens LL, as is clearly discussed in the present specification, in view of which one of ordinary skill in the art would clearly understand such features.

The above-noted objection to the Amendment filed January 11, 2006 takes the position that "the specification never discloses to have two or more images allocated in a single display region **at one time**" (original emphasis).

Further in response to that basis for the outstanding objection, applicants note the claims do not indicate the specific language noted above that two or more images allocated in a single display region at one time. The claims indicate "allocating two or more input images

to each of image display regions of an image display device". That subject matter is fully supported by the original specification, and again with respect to Figure 18 in the present specification two images L1 and L2 are allocated to a single display region and two images L3 and L4 are allocated to another display region. Thus, the language recited in claims 11 and 12 is clearly supported by the original specification.

Addressing now the further specific rejections to claims 11 and 12 under 35 U.S.C. § 112, first paragraph, again applicants submit the claim language therein is enabled to one of ordinary skill in the art.

Claims 11 and 12 were further rejected as failing to enable stereoscopic or three-dimensional viewing. That basis for the rejection is traversed. As discussed above it is well-known in the art that a left-eye image and a right-eye image can cause a stereoscopic sense based on binocular parallax, as discussed in the "Description of Related Art" section of the specification. The claims clearly set forth the steps and apparatus to realize such a stereoscopic or three-dimensional image viewing, and thus the claims are believed to be proper.

Claims 11 and 12 were also amended as failing to teach how to "switch" to display one of the images allocated in the same display regions to be displayed.

As discussed above, and again with respect to Figure 18 in the present specification as a non-limiting example, the two images L1 and L2 are alternately displayed, and the light deflector LC and lenticular lens LL in conjunction with controlling the screen S by the image display device DISP can clearly perform such a switching. Applicants also do not understand the statement that the claims "fail to teach" how to switch. Clearly one of ordinary skill in the art in reading the specification would understand such a switching operation as recited in the claims, and it is unclear how any claim can "teach" an operation.

Claims 11 and 12 were also rejected as "fail[ing] to teach how could the light deflector is capable of deflecting images from the same display regions to different viewpoints".

That basis for the outstanding rejection is not at all understood as it is well-known in many devices how an image can be deflected to different view points. That is, the basis for the outstanding rejection appears to somehow or other suggest that an image at one area could not be deflected to different view points. Figure 18 clearly shows a light deflector LC placed in front of a lenticular lens LL. Clearly a light deflector can deflect light to different areas. That is, clearly a light deflector deflects light and does not have to deflect light always to one same area, as would clearly be understood to one of ordinary skill in the art.

In such ways, each of the other specific language noted in claims 11 and 12 as not enabled is believed to be clear and enabled to those of ordinary skill in the art and proper under 35 U.S.C. § 112.

Addressing now the objection to claims 11, 12-16, 18, and 24-25, those objections are traversed by the present response.

With respect to point (1) in prenumbered paragraph 6 in the Office Action, the above-noted comments to claims 11 and 12 are believed to address that point.

Further, the claims are amended to now define the symbols "L" and "m".

Claim 13 is also amended by the present to no longer refer to "sub-regions".

With respect to the objection to the phrase "light image", that phrase is believed to be proper. First, applicants believe the claim should be read in its entire context. For example claim 11 recites "light images output from the image display regions". Applicants understand that light does not have an image, but the claims do not recite light images in the abstract, but recite "light images output from the image display regions". In that context applicants believe that claim phrase is clear, and is clearer than "image light".

Addressing now the prior art rejections based on Popovich, Son, and Nose, and each further in view of Moseley, those rejections are traversed by the present response.

Applicants respectfully submit none of the cited art discloses or suggests the claimed operations in which multiple images are displayed in different regions in a spatially-divided manner, and two or more images are switched in each of the spatially-divided image display regions in a time-dividing manner, as recited in the claims. Applicants believe the outstanding Office Action has not fully considered such claim features as the outstanding Office Action did not properly understand the claims as written.

Popovich is directed to an autostereoscopic display system based on electrically switchable holograms. In Popovich the entirety of a first diffused projected image is guided to a first observer at a first time period, and then the entirety of a second diffused projected image is guided to a second observer at a second time period, see for example Popovich at column 7, line 44 et seq., and column 3, lines 25-40.

In such ways Popovich clearly does not disclose or suggest the claimed operation such that two different images from the same image display regions are provided in a time-divided manner.

In Popovich a first image for a first observer is displayed on an entire region of a display device, and then a second image for a second observer is displayed on the entire display device, and then the displayed image is switched as a whole. In contrast to Popovich, in the claimed invention multiple input images corresponding to multiple view points are generated. The display device is divided into multiple display regions to allocate two or more input images to each of the display regions, and the allocated input images are displayed in a switching manner, while guiding the switched images to different view points.

Again in the example discussed above in Figures 16-18 of the present specification, images L1-L4 for four view points (for three observers) are generated and the respective

images are guided to four different view points. Popovich does not disclose any even similar operation. Popovich simply does not disclose or suggest any switching of two or more input images allocated to the same display region of a display device.

In such ways, the claims clearly distinguish over Popovich.

Son merely discloses a three-dimensional image system in which images are output at different timings. Thus, Son discloses a time-dividing operation. However, Son does not disclose any type of separating light images from image display regions from one another, as recited in amended Claims 11 and 12. That is, Son does not disclose any spatial separation. In Son the images output at different timings are guided to a same eye. In contrast, the claims separate the images to different viewpoints. Again with reference to Figure 18 in the present specification as a non-limiting example, different images L1 and L2 output from a stripe in a time dividing manner are guided to different eyes by a deflector, which clearly differs from the disclosure in Son.

In such ways, the claims clearly distinguish over Son.

Nose is directed to a stereoscopic display apparatus in which a variable apex angle prism is used. However, in Nose images deflected by the prism are intended to be guided to a same eye. In that way, the prism in Nose differs from the claimed deflector as the claimed deflector deflects images output from a stripe and separated by a separating element towards different viewpoints. That is, in the claims images output from an image display region are deflected and separated towards different viewpoints. Nose fails to teach or suggest any such operation.

In such ways, the claims clearly distinguish over Nose.

Moreover, no teachings in Moseley are believed to overcome the above-noted deficiencies of Popovich, Son or Nose.

In maintaining the rejection, the outstanding Office Action states:

> In response to applicants' arguments which state that the cited Son reference does not teach separation of image light the examiner respectfully disagrees since if this is the case how could the left eye and right eye image lights be directed to the left eye and right respectively?
>
> In response to applicants' arguments which state that the cited Nose reference teaches the deflection is to direct the images to the same eyes, which therefore differs from the instant application the examiner respectfully disagrees. The claims do not claim to be the same eyes or not which therefore makes the feature not reliable to overcome the rejection. Further, whether it is viewed by the same eyes or not, the cited Nose does teach explicitly to deflect via different optical paths to different viewing points or viewing positions, which satisfies the claim language.[1]

First with respect to the comments above directed to the Son reference, applicants note the arguments presented above are that Son does not disclose or suggest outputting images from a same image display region in a time-dividing manner to different view points. As discussed above different images L1 and L2 from the same image display region are sent out in a time dividing manner to different view points. That subject matter clearly differs from Son. The claims are more specific than merely reciting that light is output to left and right eyes, as appears to be the basis for maintaining the rejection on Son.

With respect to the above-noted comments addressing the teachings in Nose, the claims clearly recite directing light to different view points from a same display region. Nose does not teach or suggest that feature. Again, as discussed above with reference to Figure 18 in the present specification, different images L1 and L2 from the same display region are output in a time-divided manner to different view points. Nose does not disclose or suggest any similar feature.

In view of these foregoing comments, applicants respectfully submit each of independent claims 11 and 12, and the claims dependent therefrom, patentably distinguish over the applied art.

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[1] Office Action of March 21, 2006, page 13, second and third paragraphs.

Applicants also note withdrawn claims 19-23, 26, and 27 are pending in this application. Those withdrawn claims all depend directly or indirectly from independent claim 12. Thus, independent claim 12 is generic to each of withdrawn claims 19-23, 26, and 27. As independent claim 12 is believed to be allowable for the reasons discussed above, the reinstatement and allowance of claims 19-23, 26, and 27 is believed to be proper.

Thus, in view of the present response, applicants respectfully submit each of claims 11-27 is in condition for allowance.

As no other issues are pending in this application, it is respectfully submitted that the present application is now in condition for allowance, and it is hereby respectfully requested that this case be passed to issue.

Respectfully submitted,

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